

FINAL
Manure Task Force Meeting
October 20, 2005, DATCP Board Room, Madison

Task Force members in attendance:

Brian Rude, Co-Chair	Dairyland Power; DATCP Board	Dana Cook	Manure Hauler, Sauk Co.
Steve Born, Co-Chair	Retired UW Professor	Kevin Connors	Dane Co. Dept. of Land & Water Resources
Monte Wick	Farmers Coop. Supply & Shipping		
Andrew Hanson	Midwest Environmental Advocates	Robert Selk	Trout Unlimited
Jay Richardson	Prof. Dairy Producers of WI	Kevin Erb	UW-Extension
Richard Gorder	WI Farm Bureau Federation Board	Dan Brick	Dairy Business Assoc.
Rebecca Power	River Alliance of WI		
Ken Blomberg	Rural Water Assoc.	Task Force members absent	
Dan Fischer	Manitowoc Co. Exec.	None absent	
Lisa Conley	WI Assoc. of Lakes		
Wally Lueder	WI Farmers Union	Also in attendance: ~ 15 agency staff & others	

Upcoming meetings

- € **Monday, November 21st**, DATCP Boardroom, Madison. Task Force members will work through the preliminary recommendation as prepared by the Co-Chairs and staff.
- € **Thursday, Dec 15th**. Three meetings will be held simultaneously at Eau Claire, Manitowoc, and Madison to gather public input on the preliminary recommendations. Task Force members can attend the location of their choice. Task Force members recommended holding two back-to-back sessions at each location: 1-3 PM (better for farmers) and 4-6 PM (better for non-farming public). Staff will present a brief PowerPoint overview of the preliminary recommendations.
- € **Thursday, January 19th**, DATCP Boardroom, Madison. Members will consider public input, modify and finalize the Task Force's recommendations.

Action Items

- € Co-Chairs and agency staff compile a list of preliminary recommendations for the Task Force to discuss at November meeting.
- € Investigation protocols: Agency staff use existing tools to create an investigation protocol template for manure runoff incidents. (Use DATCP protocols on investigating pesticide spills/incidents; DNR Animal Waste Investigators Handbook.)
- € Manure Runoff Event Database—Data collection: Agency staff will put together some data requirements and procedures as a draft for Task Force to address and return it to the Task Force before the next meeting—get Gorder, Erb, Hanson's input before sending to group.
- € Agency staff, in consultation with Co-Chairs, draft incentives for creating an EMS or superior performance plan (including an Emergency Response Plan), examining potential incentives ranging from technical/financial assistance that could be redirected/leveraged, reduced liability (insurance or other mechanisms), regulatory relief or adaptation, discretionary authority. Bring it back to the Task Force to consider.
- € Kevin Erb & agency staff summarize how other states have defined "commercial hauler" (specific trigger volume, or ownership of equipment, etc.), what other states are doing for certification, and associated costs.
- € DNR Drinking & Groundwater staff compile options for including bacterial contamination (specifically from manure) in the well compensation regulations, and determine the current source of funding for the well compensation program.
- € DATCP staff determine whether there is a possibility of a \$2 surcharge on the price of a gallon of milk to help dairy farmers cover the costs of complying with regulations, or other ways to pass on the costs to the consumer.
- € Agency staff lay out options for ways to get NMPs into place on more (all?) farms.
- € Attach the Executive Summary of DNR's Water Monitoring Strategy to the minutes.
- € For next meeting
 - Provide information on whether the Brown County ordinance is going to be acceptable (noted that because DNR is just starting to address this lucid answers may not yet be available).
 - Still need to discuss phosphorus standards. In order to be able to measure effectiveness of BMPs, we need to have a water quality criterion for phosphorus in place. Recommend completion of it ASAP, along with planning through TMDLS and BMPs to implement the criteria once it is in place. Lake standards have been put on hold until the river ones are complete—need to discuss on whether that is actually the best approach. Also, focus on

lakes on the downslide (threatened by degradation or especially vulnerable) rather than targeting TMDLs toward the most highly impacted, already degraded waterbodies.

Logistics

- € Roll Call
- € September 2005 meeting minutes approved
- € Handouts provided by staff in response to questions raised from the September meeting include:
 - *Responses to Action Items from September 26th MMTF meeting*
 - Memo & attachments RE: *Request for information regarding cost of fish kill on the West Branch of the Sugar River*
 - *Farm Commodity Programs: A Short Primer* (CRS Report for Congress)
 - *Soil and Water Quality: An Agenda for Agriculture* (Committee on Long-Range Sol & Water Conservation Policy, National Research Council, 1993)
 - *Status of the Phosphorus Water Quality Standard in Wisconsin* (DNR)
 - *303(d) Impaired Waters and TMDLs-Frequently Asked Questions* (DNR)
 - *Links to Published Models, Research, and Literature related to Manure Runoff* (DATCP)
 - *Local regulatory authority, standards and issues related to winter spreading* (DATCP)
 - Conference Brochure: *Exploring the Profit Potential of Cow Manure: First Annual Manure Bio-Conversion Technology Conference* (Jan. 31 2006)
 - News clipping: *Report calls threats to region's farms threats to Chesapeake* (Bay Journal, October 2005)

Purpose of the October meeting:

To build on the progress of last month's meeting in discussion of the matrix and cover the remaining topics in the matrix. After this meeting, staff will synthesize the discussion into preliminary recommendations, which will be brought back to the Task Force in November.

- € Discussed adding the December public input meetings and additional January Task Force meeting:
 - Co-Chairs discussed the need for public input into the recommendation process, and explained that this necessitates an extra Task Force meeting in January. Some members were opposed to adding an additional meeting. Others agreed with the need for an extra session for public input, and stressed that the public comments must be considered and incorporated if appropriate before the recommendations are finalized.
 - Group recognized that December is a difficult time to get public attendance but that the time frames in place did not allow for a better option. To make the meetings most accessible, Task Force members recommended holding two back-to-back sessions at each location: 1-3 PM (better for farmers) and 4-6 PM (better for non-farming public).

Wisconsin Ag Stewardship Initiative (WASI) –Tim Johnson, Exec. Dir.

WASI is non-profit partnership between producers, environmental groups, government agencies, and university researchers, formally created in 2000. WASI identified five priority issues for producers: baseline data collection, manure & nutrient management, air quality and odor, and soil conservation practices. WASI's activities during 2005 total around 8 million dollars spent on inventorying research projects on priority issues, developing a communications plan, hosting an air quality conference, and contributing to the Buffer Initiative and Phosphorus Index. Johnson emphasized that real-world data collection is difficult and is an ongoing process. He also pointed out that trying to solve any one problem leads to many tradeoffs, and producer timelines are complex.

Discussion:

- € WASI is now getting to the point where they can begin making recommendations, as some of the partner projects begin producing tangible results. WASI's recommendations will be more educational in nature rather than regulatory. They are trying to determine what strategies need to be implemented to produce the needed changes on the land.
- € Outreach: If we can have an impact with the 20% of producers who are producing 80% of the product, that can be very effective. However, reaching the other 80%, including some who may be bad actors can be a challenge. Because producers learn from their neighbors, holding neighbor meetings can be very effective.
- € Task Force members pointed out that many research efforts are underway concurrent with proposed regulatory revisions, and asked whether such research should be completed before new state regulations are considered. Johnson felt that many of the regulatory changes being considered are not overly restrictive to producers and could be useful tools for producers. He pointed out that we will never have complete research answers--at some point we need to move ahead while using an adaptive management structure so that we can make modifications as more information comes to light.

Manure Management Research at Pioneer Farm – Chris Baxter, UW-Platteville

See handout: *WASI: Pioneer Farm Research Summary*

- € Monitoring work underway at Pioneer Farm related to manure management and watershed-scale runoff losses includes analysis of: the amount and type of manure applied, method and timing of application, single events and annual loads, and correlation with the Phosphorus Index. Pioneer Farm has 13 sites total, using a variety of paired watersheds, subwatershed areas, and single-use watersheds. Baxter presented data on the impact of winter manure applications on increasing phosphorus concentrations. However, he noted that some sites without manure applied can also have high P loads, likely due to high sediment loads. Planned manure applications for upcoming 2005-2006 season will compare surface application versus incorporation, solid & liquid applications, amount and type of manure applied, and the effect of those applications.
- € Key points: controlling just one factor (i.e. manure applications) may not have a large impact on runoff losses; must consider the whole system and manage risks accordingly; a “critical mass” of data is needed before we can quantify the risks or the effectiveness of BMPs.
- € Pioneer Farm is also evaluating composting and mechanical solids separation. Objective is to provide practical information to producers and regulatory personnel. Described separation efficiency for solids, nitrogen, phosphorus and potassium from dairy slurry and pointed out that only 10% separation occurred for N, P, and K only (i.e. most of the nutrients remain in the liquid portion); but about 40% separation is achieved for solids, producing a good pathogen-free bedding material. Researchers are also examining waste treatment strips, gaseous losses, economic analysis of solid separation as a BMP, and low-cost alternatives to compost pad construction.

Discussion

- € Hunt clarified how data is equalized from different fields with different characteristics (e.g. slope) to illustrate concentrations per unit area and total loads.
- € Solids separators- Pioneer Farm is looking into whether separators are economically viable for smaller operations. There are several varieties; the lower-priced models are around \$20,000 to \$30,000; operating costs have not yet been determined. They’re trying to look at efficiency and affordability of these tools and how the product can be managed. Also discussed the potential to irrigate the liquid portion on a growing crop—would require some additional treatment to do so. Separator produces a pretty dry solid product that does compost well; needs to be managed correctly to get a dry bedding material out of it.
- € Gaseous emissions—looking to create easy benchmarks for farmers to quantify odor and emissions.

Risk & On-Farm Manure Management—Tom Hunt, UW-Platteville

- € Pioneer Farm looks at accountability in the long run—looking for demonstrable water quality improvements. Everything they do at Pioneer Farm is iterative and adaptive; it’s a whole-system approach. They try to be realistic about the outcomes they can produce.
- € Effective manure management is managing risk to assure a desirable outcome, by knowing and understanding the points of vulnerability, all the potential outcomes, the probability of occurrence, cost of an undesirable outcome, and behavior and values. To prioritize risks, consider the probability of an event happening and the potential impact of that event. Zero risk is not attainable.
- € It can be difficult to evaluate effectiveness of BMPs at field and watershed scales because of high variability in weather and site conditions, time lags to see responses to change in management, sparse implementation of BMPs, lack of long-term studies, etc.
- € Need 5-10 year studies because of large scale (farm-scale) patterns and trends. In shorter time frames, we can parameterize and frame issues, but we need to understand the broader, long-term trends too.
- € Discussed risk management communication and noted that the sociology of participation is being studied as well.
- € Need to level the playing field while recognizing flexibility needs; regulatory methods can address this.
- € Certain farm practices that have changed in recent years have had some adverse impacts—returning to basic conservation practices can take us a long way. Conservation is a practice-centric concept—if you’re doing a practice to conserve, you’re a conservationist—it’s not ideological.

Development and Validation of the Wisconsin Phosphorus Index (PI)—Larry Bundy

See handout of PPT slides: *Development and Validation of the Wisconsin Phosphorus Index*

- € The PI is a planning tool to assess the effects of field management practices on the relative risk of phosphorus delivery to surface water from that field. It is one option to use in preparing P-based Nutrient Management Plans, and is an integral part of SNAP-Plus planning software. The goals of creating the PI include: using information that is readily available to producers and planners (such as soil test, type of crops and tillage, etc.); basing it on the best available science, and directing users to alternatives to improve management and reduce losses. The PI estimates total annual P delivery from any given field to the nearest surface water. It considers sediment-bound P, dissolved P, and single event losses from surface applications of manure/fertilizer. It then multiplies these by a delivery ratio, and that results in the PI value.

- € In estimating risk of acute loss, the PI considers variables of season, soil type, slope, surface roughness. Acute losses increase with greater application rates; winter losses increase with increasing slope and decrease with higher soil surface roughness. PI assumes the worst case for each season. Spring is the lowest risk season.
- € Research for PI is based on soil characterizations, simulated rainfall runoff trials, and natural runoff measurements. See handout for sources of further information.
- € Validation of the PI was done through measuring actual P losses from edge of field and comparing those values to PI predictions. Field runoff data was obtained from Discovery Farms, Pioneer Farms, etc. The validation process used a long time frame and many fields under a wide range of conditions and practices. Results show a close correlation between predicted values and actual values. Bundy noted that comparisons of soil test P to actual losses does not show a good correlation—that is why soil test P is not used for assessing P transport. However, soil test P is very important as one component of the PI.

Discussion:

- € There are about 700 soil series mapped in WI, and so far we have research on only a sample of them. The PI used the most common soil groupings (each grouping containing several soil series) to get a representative selection of groups for the state.
- € Why does NRCS rely on soil test P levels in 590? In 590 soil test P is one of the two alternatives that can be used (the other is the PI). The soil test P approach is a method that can be used to determine whether additional P can be applied as a fertilizer or not, and is often used for non-livestock operations. It can be used as a relatively simple tool for planning. For more complex situations like livestock farms where manure is applied, the PI is a superior tool to use. At the time that 590 was created, most states did not have a functioning PI, so they did suggest use of soil test P as the best tool at that time.
- € How well do small-plot simulated rainfall events and natural runoff events parallel one another? The actual value for P loss is different between the two; however, they parallel one another in the direction that practices impact P losses (e.g., if a BMP results in reduced runoff during simulated rainfall events, it also reduces runoff during natural events). The small plot research results have been validated through accuracy comparisons at the larger field scale with relatively good results.

Wisconsin Buffer Initiative (WBI): Preliminary findings and recommendations – Pete Nowak

See handout of PPt slides: *Wisconsin Buffer Initiative: Preliminary findings and recommendations*

- € Charge: Based on best available science, where across the diverse Wisconsin agricultural landscape would riparian buffers have the greatest probability of enhancing water quality? They determined what science is needed to address this issue, and then either found the data or created it. WBI will be finished with their work in Dec. 31, 2005.
- € Discussed the ‘Concept of Disproportionality’: a small proportion of any agricultural landscape disproportionately contributes to overall system degradation. Nowak encouraged the Manure Management Task Force to use the same principle to focus on determining which small percent of operators/operations are contributing the most to the problem. He pointed out that the documented runoff events constitute less than one percent of the landspreading events over a given year.

WBI focused on four research themes.

1. *Develop an adaptive management approach to riparian buffer technology.* Science is an open-ended process; we will never reach an end point. We have to move forward even when there’s a lot of uncertainty. But it’s important to have some sort of a feedback mechanism. Regulators need to recognize this necessity.
2. *Locating watersheds where buffer technology will be most beneficial.* WBI members made a political decision to focus on where buffers will do the most good, focusing on the streams that are mid range (just under the stream suitability threshold) to bring them up to the suitability level. WBI decided that third order stream watersheds were the most appropriate size, because they are manageable to local staff. There are approximately 1600 third order stream watersheds in Wisconsin.
In assessing responsiveness to buffers, WBI members came to consensus on three goals:
 - Improve stream water quality. To do this they predicted nutrient & sediment loads and identified sources that can’t be mitigated through buffers, and used these factors to determine load reduction potential.
 - Protect and enhance native biological communities. Focused on sediment-sensitive fish species as an indicator.
 - Sustain lake water quality. Focused on those waterways approaching the “tipping point”, just before they go hyper-eutrophic. WBI identified those lakes and will provide DNR with a lake list ranked 1-1600 on predicted response to buffer implementation.
3. *Determining fields where buffers will be beneficial.* Goal: Provide assistance and appropriate tools for local field staff. Used a 3-step process to begin implementing buffer systems in a sample watershed, involving gathering local data on current conservation practices, a subwatershed analysis to determine where to focus on areas of greatest vulnerability, and field-level nutrient and sediment assessment. Buffers are not implemented in the entire

subwatershed, only in critical areas within each subwatershed— 6-7%, in one example. SNAP-Plus is also used to determine fields needing alternative practices and explore whether existing management can be changed to meet goals—buffers are only one in a series of options that operators can choose from.

4. *Placement and configuration of buffer technology.* Simple “ribbon” buffers are not the most effective approach for water quality—need to modify existing criteria to incorporate the “contributing area” into design of a buffer “system”.

Conclusions:

- ⊘ Recommend moving forward with policy actions even though there is, and always will be, some scientific uncertainty.
- ⊘ The ranked list of watersheds makes funding a political decision supported through the process of civic science.
- ⊘ Most important tool is knowing where, when, and in which watersheds, farms, fields, and subfields remedial practices need to be applied, and where those approaches do NOT work.
- ⊘ Applying the lessons learned by WBI, the Manure Task Force needs to determine where/which farms need tools applied—don’t look for the silver bullet of technologies. Focus efforts on certain high-risk areas.

Discussion:

- ⊘ Acute versus chronic impacts—When addressing the contributing area rather than just the buffer, they determine whether to plan for 50 year storm, 100 year storm, etc. (WBI uses the PALMS model—a landscape model looking at surface evapotranspiration and infiltration, runoff events, from very small to large runoff events). This approach can be used to address some chronic as well as acute impacts. Buffers do play a role in preventing chronic events; however, management of the contributing areas is the best way to address acute events—can take less land out of production yet have a greater effect.
- ⊘ The Clean Water Act mandates protecting healthy ecosystems—aren’t buffers needed for habitat concerns? By removing the 30-foot buffer ribbon you may remove some habitat continuity. Nowak stressed that the WBI was charged with focusing only on where buffers would do the most good (greatest bang for the buck) relative to water quality, not biodiversity. Could use a similar process to determine where buffers are most effective for biodiversity needs.
- ⊘ Would buffers be harvested? Yes, producers would be allowed to harvest the contributing area buffer. In the whole system process, the upland practices will also be modified to reduce runoff—it is a combined approach since buffers can’t do it all. The solutions contain a mix of things needed for success.
- ⊘ Implementation: do we have the knowledge needed to implement this well on the priority areas, or is yet more research needed before implementing? Needs new dollars so that we don’t take money away from other county needs. Rather than directing more money toward research, Nowak feels strongly that funds need to go straight to implementation since that is how we will see what works and how we can move ahead better.
- ⊘ A task force member expressed support for the approach of improving lakes on the downslide rather than putting money into the worst of the worst, where not as much improvement is likely. Need to recognize that the best approach may not mesh with current policy, and consider adjusting policy accordingly (for example, that approach doesn’t fit with CREP policy, which is not based on water quality; TMDLs may be another area to examine).

Matrix –Group discussion on second half of the matrix

Preliminary Discussion

- ⊘ Members questioned whether the Task Force had moved from its broad-based starting point toward specific goals agreed on by the group. Rude indicated that the group is still working from the same original mission and goal: to examine an array of tools and options to reduce the incidence of pollution to WI waters, and provide recommendations to the agency Secretaries. Further refining of the goals at this point may not be most productive way to spend the limited time allotted. Suggested that once we get the preliminary recommendations listed, we will then need to determine which ones are best suited to our goals, and can discuss at that point whether the focus is too broad or too narrow.
- ⊘ Co-chairs have discussed how to synthesize our conversation so far. We haven’t yet zeroed into the specific problem areas.
- ⊘ Clarified that the group is focusing on both acute and chronic impacts. To keep things manageable, members suggested creating different sets of recommendations for addressing each, or having some method of indicating which approaches address acute, chronic, or both.

Revisited Categories from Previous Discussions/New Categories

- ⊘ *Digester research*—Group decided to return digesters to the table since they do address pathogens as a water quality issue.
- ⊘ *Information & Education*—Add development of recommendations on how communication exchanges could take place regarding new innovations for responding to emergencies. Also add dissemination of information about source reduction—reducing phosphorus in feed, separating liquids from solids, reducing water in the system.

- € Add a category for *Source Reduction*—reducing phosphorus in feed, separating liquids from solids, reducing water in the system. Possibly think about ways to make these more profitable. Could also add this topic to educational/outreach (above).
- € Add a category for *Funding Mechanisms*. Economic sticking points seem to be a central issue, and maybe the Task Force needs to address these rather than leaving it up to legislature.

Data Collection

Improve environmental data collection related to manure incidents (develop protocols, share responsibilities)

- € Need systematic collection procedure for runoff events so that commonalities of the events can be determined, without becoming too costly or prohibitive. This is not to take the place of action that needs to be taken now, but should be used as part of an adaptive management approach to supplement our knowledge in years to come and inform future management recommendations. Some members noted that it is also intrinsically related to enforcement. Agency staff will put together some data requirements and procedures as a draft for Task Force to address and return it to the Task Force before the next meeting—get Gorder, Erb, Hanson’s input before sending to group.
- € Also need common process for how investigations are done. Staff will use currently existing, related protocols to create an investigation protocol template for manure runoff events (use DATCP protocols on investigating pesticide spills/incidents; DNR Animal Waste Investigators Handbook).
- € Monitoring for chronic impacts: Land & Water Conservation Plans have a monitoring component. Could some volunteer monitoring be used to study chronic impacts?

Improve data collection/research related to practices designed to avoid incidents

- € There is a phenomenal amount of research going on—we should include in our recommendations an acknowledgement of current research, encourage the use of it, and encourage continued sharing between agencies to synthesize research.
- € During the investigation and data collection process, consider collecting social information on why producers do or do not implement practices or corrective actions, barriers to implementation, etc. (this could also be added to the research categories).

Monitoring

- € Find a way to help or coordinate the counties to provide direction for them.
- € The purpose needs to be monitoring for water quality outcomes, connecting what’s happening on the land to water quality in streams. The group distinguished between research monitoring (for instance, to develop BMPs or determine how well they are working), compliance monitoring during an event, and ambient monitoring to determine the state of water quality.
- € What is the role of volunteer monitoring and what can that data be used for; can it be used for regulatory purposes? Volunteers are great for ambient monitoring. Their efforts can be focused on areas of highest risk if those are most helpful. An example was given where DNR helped set up volunteer monitoring in Manitowoc Co. to focus on problem areas, which is now working well. However, it is difficult to have volunteers monitor runoff events since these incidents happen randomly.
- € DNR’s Water Division has a Water Monitoring Strategy—its Executive Summary can be attached to the minutes.

Planning

Develop planning considerations to reduce risks (whole farm plan, Environmental Management Systems (EMS))

- € The framework for EMS has been around a long time; its goal is to prevent problems by using planning above and beyond that done with other types of planning tools. The farmer sets out specific environmental goals and then the EMS helps them to plan for achieving those goals; it also helps make operators aware of what their problem areas could be, and how to prevent and/or address them, and includes an emergency response plan. EMS audits and evaluations are done by external parties (for manure applicators the insurance industry does the audits). An operation’s EMS improves each year to increase environmental performance. Most non-agricultural industries use an ISO 14001, equivalent to an EMS for agriculture.
- € EMS and Green Tier: EMS can fit well with the Green Tier approach or the two can be used separately—both help reduce risk and encourage farmers to go above and beyond requirements. The group acknowledged that Green Tier programs are generally targeted for operations covered by a permit, while EMS can be used for any size operation. There has been some research by Gary Jackson on the role of EMS. In *certain targeted critical areas*, we might recommend whole farm plans, EMS, or nutrient management plans...the group seemed in general agreement that this may be a good approach but an incentive mechanism would need to be developed.
- € Carrot vs. Stick approach to encouraging EMS: Producers noted that there needs to be a significant carrot or the EMS won’t get done; it’s a lengthy process—not a small undertaking. Could use of an EMS help protect the good actors who

have an accidental event? Some possible carrots discussed include reduced liability, financial/technical assistance, various types of financing mechanisms, Green Tier or other green stamp programs to designate a farm as a high-quality performer (though one producer noted that the market isn't there yet to reap financial benefits from marketing your operation as a Green Tier operation). Regulatory relief was also discussed as a carrot but this would only apply to the small percent that are regulated (though smaller operations that have a discharge can still incur enforcement & costs). If you compare the cost of preparing a preventative EMS to cleaning up a fish kill (\$25-50,000), that should be an incentive. Staff will draft incentives for creating an EMS or superior performance plan (including an Emergency Response Plan), examining potential incentives ranging from technical/financial assistance that could be redirected/leveraged, reduced liability (insurance or other mechanisms), regulatory relief or adaptation, discretionary authority. Bring it back to the Task Force to consider. Could possibly be tested in a certain region as a pilot.

- € We need to address how we are going to pay for these recommendations. If more rules are created, we need to create funds to implement them. The dairy industry will go out of business—some producers say if they have to spend money on structures, etc, those farmers are going to shut down or leave.
- € Enforcement and penalties: DNR's financial penalties for negligent acts are assessed depending on how the responsible party manages their manure before the event and responds during/after the event. DNR has guidance on staff procedures for analyzing the appropriate level of enforcement. Producers are skeptical of taking DNR's word on that. DOJ only prosecutes if they feel it is justified; the odds of getting penalized in an unjust way are very tiny. Many farmers don't see their neighbors receiving any enforcement action even though they have runoff events; so it's hard to make a carrot that works. It is unlikely that an operator following an EMS would receive a referral to DOJ. It was noted that citizens can also take these issues to court, not just DNR.
- € There were questions about who has authority during an emergency. An emergency plan can address smaller incidents, but larger events may need additional expertise. If the situation is too big then the DNR and the operator will work together to determine how to best handle it. DNR must be notified as part of the emergency response plan. If the impact is going beyond the operator's property and impacting others' properties, then others need to become involved.
- € A nutrient management plan along with an EMS can prevent most chronic events. It was noted that currently, comprehensive nutrient management plans are not held by many operations (200-300 total in WI; and CAFOs have equivalent requirements).

Target critical lands and operation for practices (TMDL, small-scale watershed plan)

- € *TMDLs*—Recognized the need for TMDLs as a planning tool for nutrient management. TMDLs are required for impaired watersheds.

Emergency management

Review protocols (increase agency coordination)

Already discussed at a previous meeting. Stevenson/VandenBrook can supply information.

Emergency storage and disposal options (manure storage bank, CRP lands)

- € Erb recommends changing the text in the "Feasibility/Acceptability" column from "long term" to "short term".
- € May want to look at certain ordinances that say storage facilities have to be closed after a certain time period—instead, if they meet current specifications let them remain available for emergency storage. Most ordinances have variance procedures that should make this a straightforward process. For emergency use of pits that would've been closed, consider compensation for the owner.
- € There is an existing list of municipal sewage treatment plants (statewide list available through Pierre Grienier, Appleton Wastewater Treatment Plant); they could potentially take manure during an emergency. However, need to be cautious that their wasteload allocations aren't overwhelmed.
- € Create county lists of operations with storage or other potential emergency storage options that could be part of a response plan.
- € Biosecurity concerns would need to be addressed with several of the above options. Questions arise on how to transport manure from problem site to storage, whose land it is spread on afterwards, and liability issues. For permitted operations consider the transfer of responsibility for the manure.
- € CRP lands as application options for emergency—it's against the rules to spread on CRP—it's been checked with the Feds and not currently an option unless Fed changes their position (not all agreed this would be a good idea to use CRP land). We could still put it on recommendations if group feels appropriate.
- € Several members felt that encouraging private arrangements as part of each operator's EMS was the best approach. Plan ahead so each farmer knows which options are available. Most storage facilities are near capacity—how would the receiving farmer dispose of the extra material? Moving problem manure to another operator's storage facility has narrow

use from a practical standpoint.

Emergency response plan

- € In the “Effectiveness” column, change text from “much less effective” to “somewhat less effective” for land application areas.
- € See some related discussion above.

Expand emergency management practices (polymers, barriers)

- € The private sector hasn’t developed all the needed tools yet. DNR should leave the door open to allowing use of these tools if they’re deemed effective, and agency staff should be willing to consider trying them. Need better communication with local communities and the agricultural sector about what DNR has tried with new emergency response technologies and how it worked (add to I&E category: develop recommendations on how communication exchanges could take place regarding new innovations for responding to emergencies). Polymers are beginning to become more available commercially.

Regulation

Required practices (winter spreading restrictions and prohibitions, conservation planning)

- € Operations with fewer than 1000 animal units but that meet certain criteria can be designated as a CAFO under current NR 243. DNR is considering developing a general permit which could perhaps be used for this type of situation.
- € ATCP 50/51 have nutrient management requirements and winter spreading restrictions based on NRCS 590.
- € NR 243 has additional winter spreading restrictions that go beyond NRCS 590.
- € Local ordinances may also incorporate NRCS 590.

Mandatory storage capacity

- € Under the proposed revisions for NR 243 all currently permitted operations are required to have 6 months storage for liquid. Some members questioned how effective mandatory storage capacity will be in solving runoff problems. Pointed out that even if everyone had 6 months storage it still wouldn’t prevent all events; however, it can prevent acute events when there’s storage available during a critical period. If an operation doesn’t have storage, it’s forced to spread at undesirable times. If you do have storage, you have options. The group recognized that storing for 6 months can prevent some problems (spreading at undesirable times) but can also cause problems (spreading very large volumes in the spring). Task Force members should stay abreast of further opportunities for commenting on NR 243.
- € Mandating a minimum length of storage isn’t really appropriate; from a program management aspect we design for a certain time frame (e.g. 5 year permit term). Within that time frame, there are a lot of changes in each operation that create variables. To address that, proposed NR 243 does contain an expansion allowance –6 months must be maintained at all times except for the expansion allowance (to qualify, operations must have a good record and have emergency options). Some members believe that mandating storage capacity will cause problems, and suggested using guidelines for determining the amount of storage that may be appropriate for an operation, but not mandating minimum days. One producer clarified that he is not opposed to storage, just mandatory storage—there are times that storage is appropriate.
- € The question comes down to management—some farms have a safe land base for spreading, others do not. So the question should be does each farmer have the resources to adequately manage their manure in an environmentally sound manner—does each farmer have the tools, and if not, determine what tools need to be put into place. Use a performance-based approach rather than a specific technological option.
- € Economics: Each time we keep coming back to economic sticking points as a central issue, and maybe we do need to address that rather than leaving it up to legislature. (Add “Funding Mechanisms” to our matrix.) Discussed the possibility of passing on increased cost to the consumer through a surcharge per gallon of milk. DATCP staff were asked to determine whether there is a possibility of a \$2 surcharge on the price of a gallon of milk to help dairy farmers cover the costs of complying with regulations, or other ways to pass on the costs to the consumer. A voluntary green charge for milk is another option, but producers were skeptical about market demand for that type of program.
- € Others countered by stating that the party causing the environmental harm—in this case farmers—is who should bear the cost. The farmer has to accept some level of responsibility for causing harm to public resources.
- € If fewer than half of the state’s cows are on farms with nutrient management plans (NMP), how do we get the rest of them to have an NMP so we can address things farm by farm? Perhaps it could be done through WPDES permits for medium sized CAFOs, or through other means. As of 2008, all crop producers must have an NMP, though they cannot be compelled to do that unless first offered cost sharing. So there is a framework in place but there still is a significant stumbling block. Discussed whether there should NMPs should be mandatory and if so, how we might require it, provide incentives, fund it. Or, it could be required without funding (are there similar requirements without funding for other industries?) Staff assignment: Lay out options for ways to get NMPs into place.

- € Could go on record supporting funding cost sharing adequately for both nutrient management planning and implementation of those plans (currently there is not sufficient cost sharing for implementing the plan long-term), but recognize that the level of effort to implement plans will vary by farm and by region.

Manure haulers/applicators/landowners (certification, application procedures)

- € The majority of haulers in Wisconsin are hauling for CAFOs and are therefore already regulated. Contract haulers are involved with approximately 1/3 of the manure in the state, but that is declining somewhat as CAFOs are moving toward hauling their own. Of the 100 firms in the state, just under half of them have been certified.
- € Most small farms are hauling their own. Group discussed providing training for self-haulers. There are some current programs that could be adapted for self-haulers. Most farmers learn how to use their equipment properly, but they may not be familiar with different handling and application needs for liquids versus solids. We could advocate for specifically trying to educate individual operators on responsible manure hauling. One suggestion was creating a statewide permitting program (similar to Dane County's manure storage fee) required for daily haulers, but as an incentive offer a waiver of that fee to farmers who attend a workshop before applying for a permit, to address siting, nutrient management, emergency spills, etc.
- € Applicators are already regulated in two other states. Both IL and IA require hauling certification for any operations with over 300 animal units. In IA all for-hire haulers are regulated; in IL there is a voluntary program for for-hire haulers similar to Wisconsin's.
- € Should commercial haulers be allowed to do business without any training? Would like to see all applicators have a level playing field with a certain level of certification; learn a whole suite of skills dealing with liquid versus solid manure. Others expressed that they wouldn't want to move to a mandated program (unless perhaps for those who handle over a certain volume of manure), but information on application should be made available to everyone—including individual operators. Staff summarize how other states have defined "commercial hauler" (specific trigger volume, or ownership of equipment, etc.), what they're doing for certification, and associated costs (Erb can contribute to this).
- € Certified applicators have a set protocol to use for notification and investigation of runoff events (investigations done by Professional Nutrient Applicators Assoc. of WI); however those guidelines can't be used for individual farmers because there is no overriding organization to conduct those investigations.
- € If regulated, some preferred it be regulated through DATCP. Could look at how pesticides are structured based on environmental risk. Such a program costs a lot of money—Iowa's program costs a quarter of a million dollars.

Compensation programs (wells)

- € Right now Wisconsin's Drinking & Groundwater program has a well reimbursement program that covers chemical contamination but not bacterial contamination (and thus excludes manure contamination)—this is a gap in the current program. Recommend that bacteria be included, which would likely require rule amendment and will also require funding. Agency staff can compile some options for filling this gap, as well as determining what the current source of funding for the well program is.
- € Responsible parties for well compensation: Many people have to build new wells because of manure contamination. If there is an identified responsible party, that responsible party is required to make compensation. Often with manure it's hard to pinpoint the responsible party. There are also some income limits—geared toward lower income parties.
- € Under the current program, reimbursement is not required if the impacted wells were not compliant with code at the time of the impact. However, a large percentage of rural wells wouldn't pass the bacteria standard—in the case of an acute event, well compensation should be available even for wells that don't meet code. Need to define the circumstances under which compensation is due, and use the investigation process to ascertain that the source was an off-site source. Especially if that source was operating under DNR allowed rules, there would be a good case for compensation.

Record keeping—Go on record as being in favor of good record keeping.

Roles & responsibilities: federal, state, local (coordination)—Discussed at previous meeting.

Other

Short-term storage approaches (headland stacking, mixing solids/liquids)—Did not address directly (though there may have been related discussion in the September minutes).